farrell

The goal of farrell is to provide an interactive interface to Data Envelopment Analysis modeling in R. The farrell package is built upon Benchmarking. The Github repository is available here.

Installation

You can install the development version of farrell with:

```
remotes::install_github("feddelegrand7/farrell")
```

Examples

You can run:

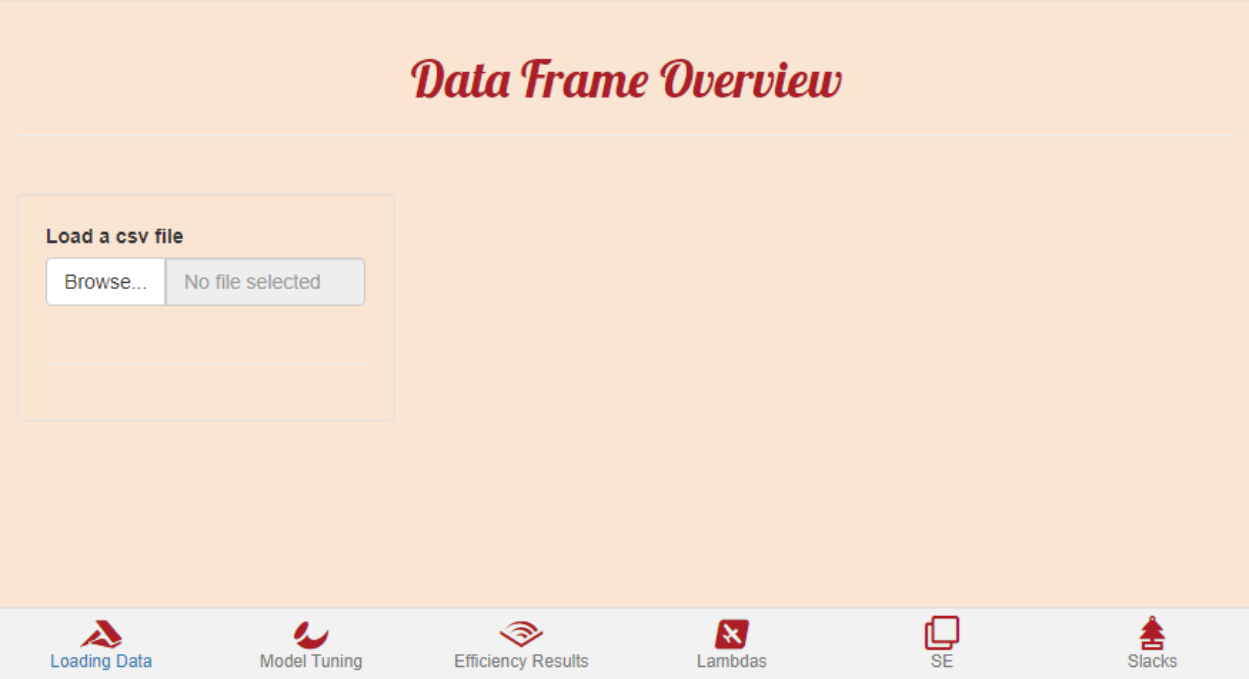
```
library(farrell)

farrell()
```

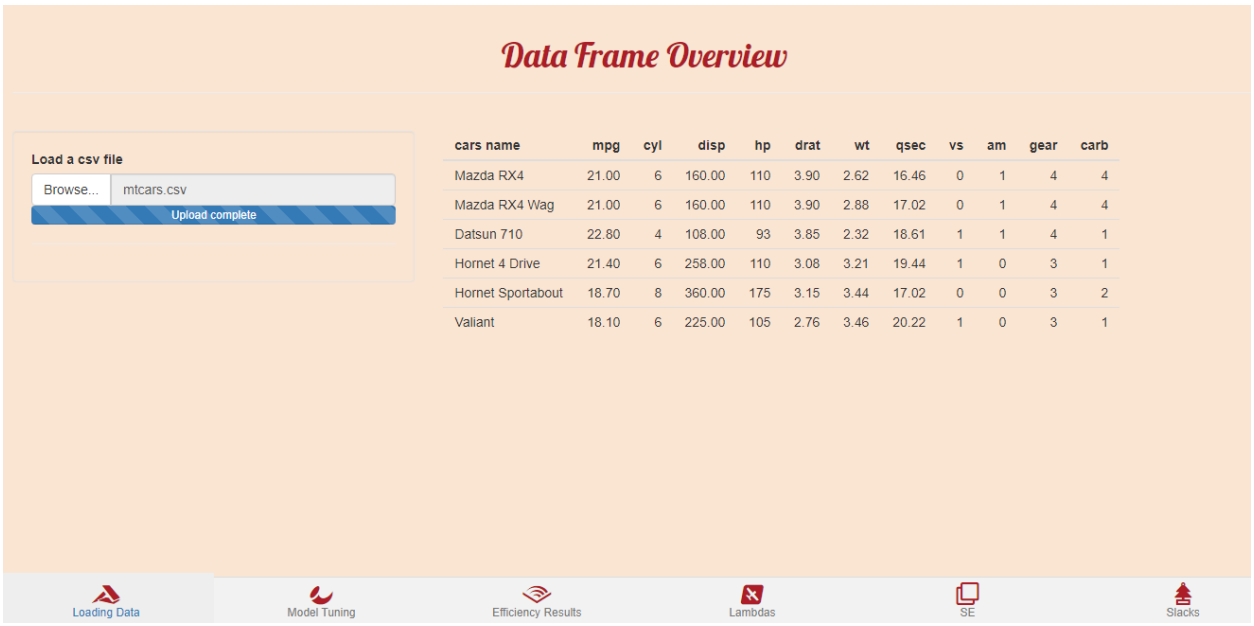
or if you're working on RStudio, just click on **Addins** then **farrell**.

Data Loading:

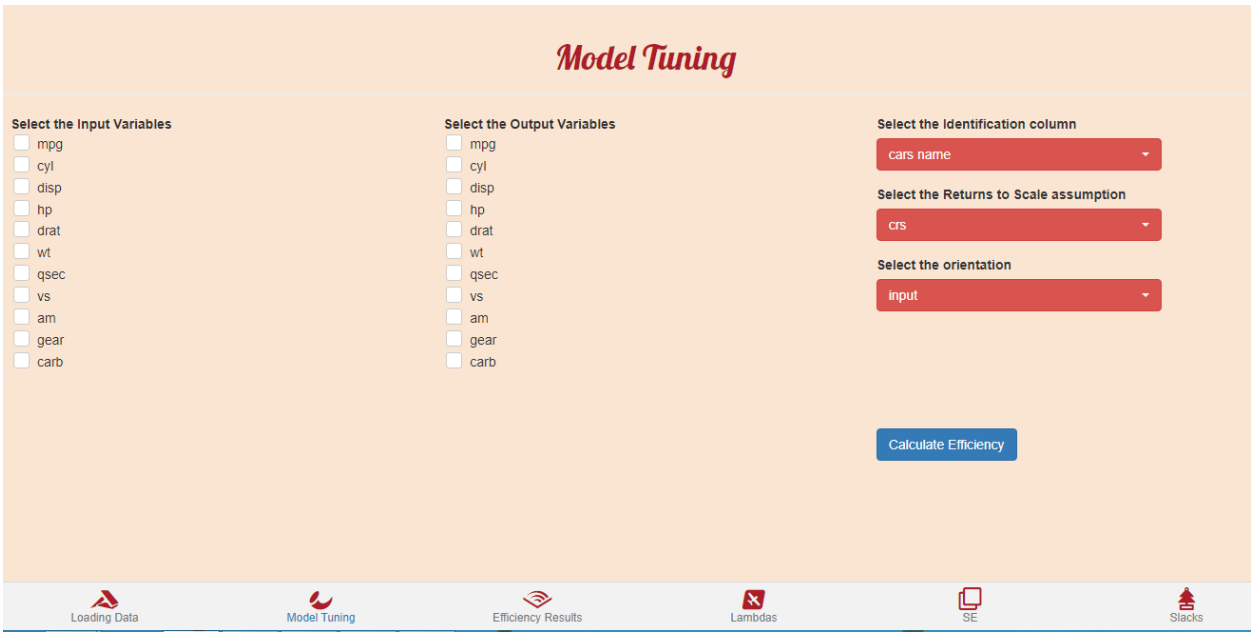
Hit **Browse...** to upload your data frame in a csv format. All the inputs and outputs must be contained within the uploaded data frame. Further, the data frame needs to contain an identification column in order to identify Decision Making Units distinctively. It can be a numeric or a character column.



In the following examples, we use the mtcars data frame which has been exported in a csv format with an additional column: **cars name**.

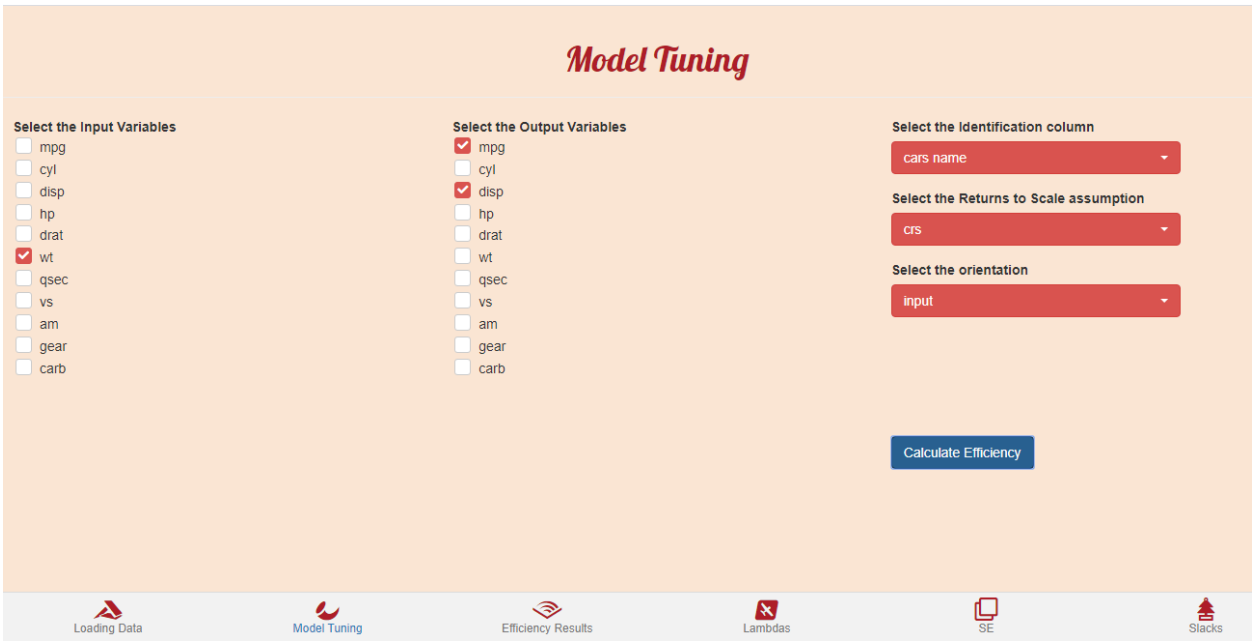


Model Tuning



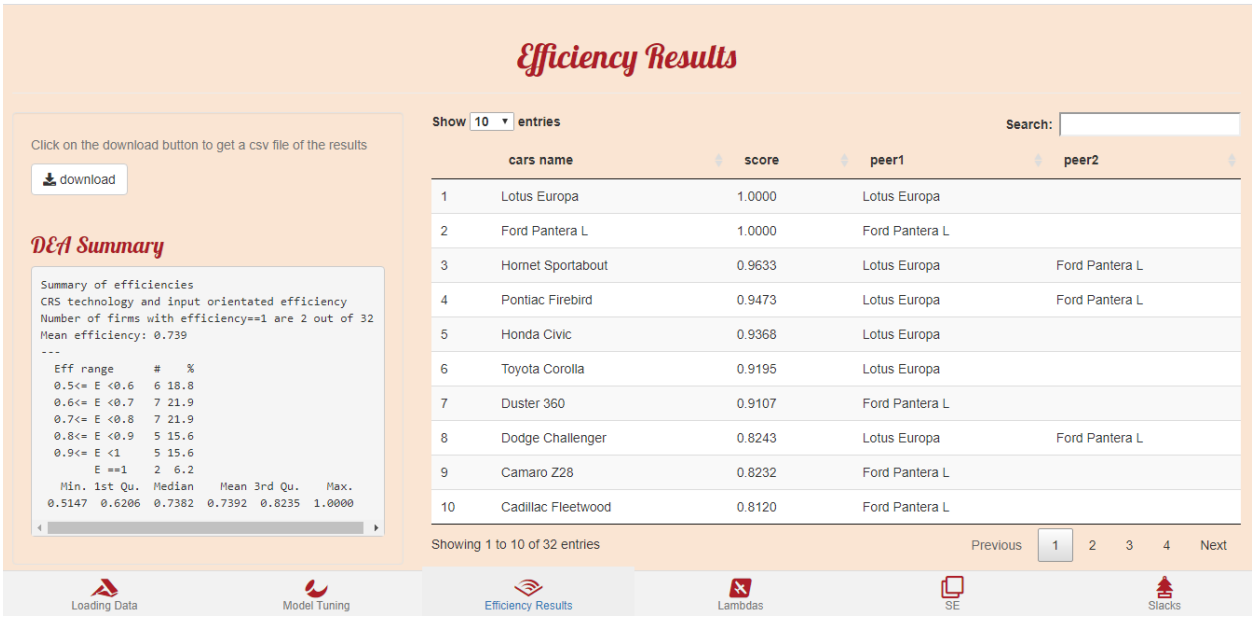
Within the Model Tuning tab, you select the input and output variables and determine the identification column. Then you choose the Returns to Scale assumption (crs, vrs, irs, drs, add or fdh). After that, you determine the orientation of the model, whether input or output. Finally, hit **Calculate Efficiency** to get the results in the respective tabs.

Let's for example consider **mpg** and **disp** as the output variables and **wt** as input. We choose **cars name** as the identification column and execute an input-oriented model with Constant Returns to Scale.



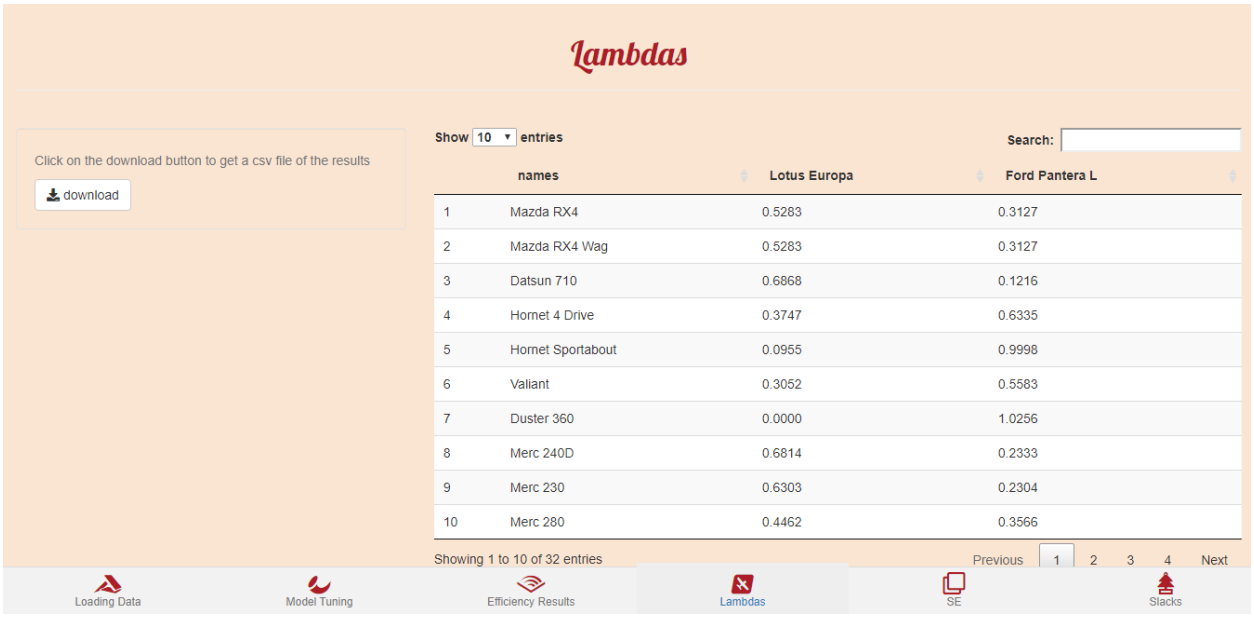
Efficiency Results

The Efficiency Results tab displays the efficiency scores along with the peers for each unit in a descending order. You have the ability to download the result in a csv format. The tab also provides a summary of the distribution of the efficiency scores.



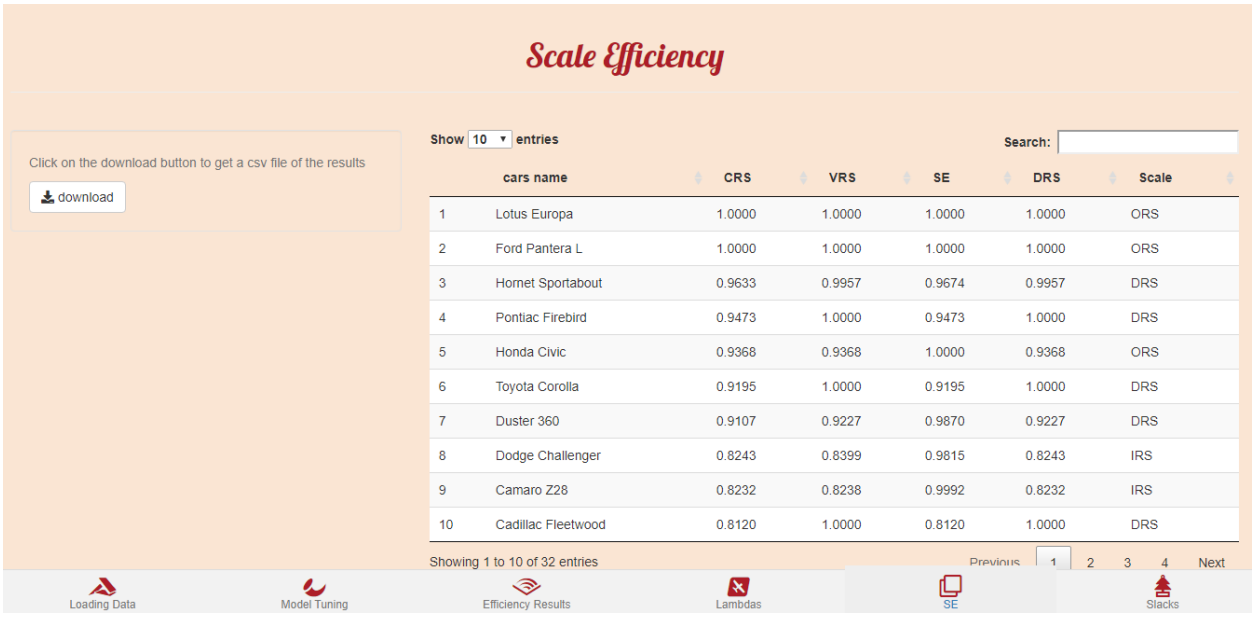
Lambdas

In the Lambdas tab, you get the contribution of the peers to the inefficient units' score.



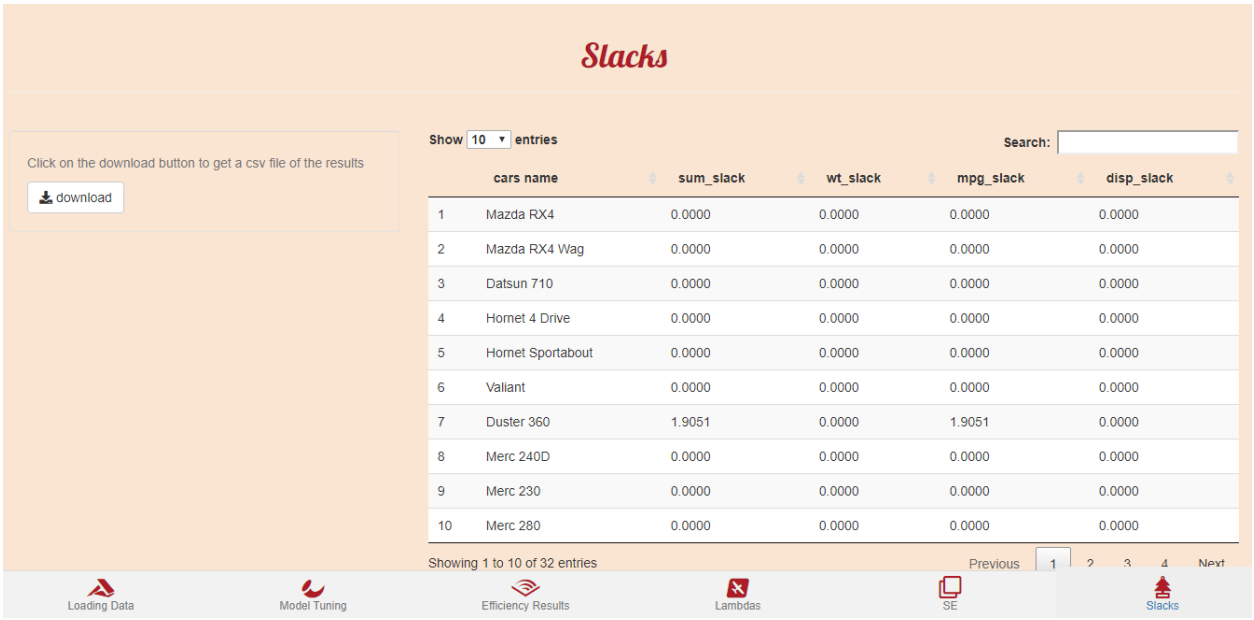
Scale Efficiency

The SE tab provides the Scale Efficiency score and the operating scale for each DMU under consideration.



Slacks

The Slacks tab displays a data frame containing the sum of the slacks and the slacks for each input/output variables.



Code of Conduct

Please note that the farrell project is released with a Contributor Code of Conduct. By contributing to this project, you agree to abide by its terms.